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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/525,105	03/14/2000	Donald C. Abbott	TI-28098	9089

7590 07/26/2004

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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/525,105

Applicant(s)

ABBOTT ET AL.

Examiner

Alexander O Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Serial Number: 09/525105 Attorney's Docket #: TI-28098

Filing Date: 3/14/00; claimed foreign priority to 3/19/99

Applicant: Abbott et al.

Examiner: Alexander Williams

Applicant's Amendment, filed 4/19/04, has been acknowledged.

Applicant's Pre-Amendment filed 4/19/04 has not intended for this application, but intended for a division filed stated in a telephone conversation with Jay Cantor on 7/23/04.

Claims 14 to 22 have been canceled.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered

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therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CAR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Maudie et al. (U.S. Patent # 5,889,211).

For example, in claim 1, Maudie et al. (**Figures 1 to 5**) specifically figure 1 show a leadframe 13 for use with packaged 22 integrated circuit chips 16 comprising: a leadframe 13 having segments intended for solder attachment; gold plated on segments of said leadframe intended for solder attachment. (Microsensor device 16 typically comprises a semiconductor material and is coupled or bonded to microsensor package 12 using, for example, bonding layer 21. Bonding layer 21 comprises a lead glass, a soft solder (e.g., a Pb/Sn solder), an epoxy, or a silicone. Leadframe 13 typically comprises copper, a copper alloy, or a nickel alloy (e.g., alloy 42, kovar, or invar). Optionally, leadframe 13 includes a selectively plated metal layer (e.g., gold). Connective wire 14 comprises, for example gold or aluminum. These materials, and methods of assembly using such materials, are well known in the art). Hashizume fail to explicitly show the gold selectively plated on segments of said leadframe intended for solder attachment.

However, a recitation directed to the manner in which a claimed apparatus is intended to be used does not distinguish the claimed apparatus from the prior art- if the prior art has the capability to so perform. See *MPEM 2114 and Ex parte Masam*, 2 USPQ2d 1647 (1987). It has been held that the recitation that an element is "intended to" perform a function is not a positive limitation but only requires the ability to so perform. If the prior art fails to discuss the intended use and the Examiner has a basis for asserting the prior art product is capable of performing in the claimed manner, the claims should be rejected. The recitation of a new intended use for an old product does not make a claim to that old product patentable.

In re Schrelber, 44 USPQ2d 1428 (Fed. Cir. 1997).

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In Madie et al. leadframe, because it is selectively plated with gold and exposed to the environment, the leadframe is capable of performing the intended use.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to use the teaching of Maudie et al.'s selective plating on the leadframe for the purpose of making better solder connections.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashizume (U.S. Patent # 5,946,556) in view of Huang et al. (U.S. Patent # 5,994,767).

For example, in claim 1, Hashizume (**Figures 3 to 5F**) specifically figure 4 show a leadframe 4 for use with packaged 1 integrated circuit chips 5 comprising: a leadframe 4 having segments intended for solder attachment; gold plated on segments of said leadframe intended for solder attachment. (**see column 10, lines 26-34, (iii)**). Hashizume fail to explicitly show the gold selectively plated on segments of said leadframe intended for solder attachment.

Huang et al. is cited for showing a leadframe for a integrated circuit package. Specifically, Huang et al. (figures 1 to 7) specifically figure discloses the base structure is divided into one external-lead area and one package area in including one bonding area having one die pad therein. There are various ways to form a copper layer, a nickel plating, a silver layer, a palladium/nickel (Pd/Ni) plating, a palladium (Pd) plating, and a gold layer on the leadframe, either over the entire leadframe or selectively only over specific portions of the leadframe (see column 2, lines 37) for the purpose of making solder connections.

Next, a gold layer 50 is formed by flashing selectively only over the palladium (Pd) plating 38 in the external-lead area 121. After this, those portions of the first silver (Ag) layer 36 in the package area 120 that are uncovered by the second silver (Ag) layer 39 are removed so as to expose the underlying portions of the nickel plating 34. As a result of the foregoing process, this leadframe differs from the leadframe of FIG. 2A in that one gold layer 50 is formed over the palladium (Pd) plating

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38 formed over the first silver (Ag) layer 36 in the external-lead area 121 of the leadframe.

____ However, a recitation directed to the manner in which a claimed apparatus is intended to be used does not distinguish the claimed apparatus from the prior art- if the prior art has the capability to so perform. See *MPEM 2114 and Ex parte Masam*, 2 USPQ2d 1647 (1987). It has been held that the recitation that an element is "intended to" perform a function is not a positive limitation but only requires the ability to so perform. If the prior art fails to discuss the intended use and the Examiner has a basis for asserting the prior art product is capable of performing in the claimed manner, the claims should be rejected. The recitation of a new intended use for an old product does not make a claim to that old product patentable.

In re Schrelber, 44 USPQ2d 1428 (Fed. Cir. 1997).

In Huang et al. external lead area, because it is selectively plated with gold and exposed to the environment, the leadframe is capable of performing the intended use.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to use Huang et al.'s selective plating to modify Hashizume's plating of the entire surface for the purpose of making better solder connections.

Initially, and with respect to claims 2, 11 and 13, note that a "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Fitzgerald*, 205 USPQ 594, 596 (CCPA); *In re Marosi et al.*, 218 USPQ 289 (CAFC); and most recently, *In re Thorpe et al.*, 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a

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product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear.

Claims 2 to 13, 15 and 23 to 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akino et al. (Japan Patent Application # 2000-77593) in view of Huang et al. (U.S. Patent # 5,994,767).

Akino et al. is cited for showing a lead frame for semiconductor. Specifically, Akino et al. (**figures 1 to 3**) **specifically figure 3** discloses a leadframe 1 base made of copper 5; a first layer of nickel 6 deposited on said copper; a palladium 7 on first nickel layer; a second nickel layer 9; a layer of palladium 7; and a layer of gold 8. Akino et al. fails to explicitly show gold selectively plated on segments of said leadframe intended for solder attachment.

Huang et al. is cited for showing a leadframe for a integrated circuit package. Specifically, Huang et al. (figures 1 to 7) specifically figure discloses the base structure is divided into one external-lead area and one package area in including one bonding area having one die pad therein. There are various ways to form a copper layer, a nickel plating, a silver layer, a palladium/nickel (Pd/Ni) plating, a palladium (Pd) plating, and a gold layer on the leadframe, either over the entire leadframe or selectively only over specific portions of the leadframe (see column 2, lines 37) for the purpose of making solder connections.

Next, a gold layer 50 is formed by flashing selectively only over the palladium (Pd) plating 38 in the external-lead area 121. After this, those portions of the first silver (Ag) layer 36 in the package area 120 that are uncovered by the second silver (Ag) layer 39 are removed so as to expose the underlying portions of the nickel plating 34. As a result of the foregoing process, this leadframe differs from the leadframe of FIG. 2A in that one gold layer 50 is formed over the palladium (Pd) plating

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38 formed over the first silver (Ag) layer 36 in the external-lead area 121 of the leadframe.

____ However, a recitation directed to the manner in which a claimed apparatus is intended to be used does not distinguish the claimed apparatus from the prior art- if the prior art has the capability to so perform. See *MPEM 2114 and Ex parte Masam, 2 USPQ2d 1647 (1987)*. It has been held that the recitation that an element is "intended to" perform a function is not a positive limitation but only requires the ability to so perform. If the prior art fails to discuss the intended use and the Examiner has a basis for asserting the prior art product is capable of performing in the claimed manner, the claims should be rejected. The recitation of a new intended use for an old product does not make a claim to that old product patentable.

In re Schrelber, 44 USPQ2d 1428 (Fed. Cir. 1997).

In Huang et al. external lead area, because it is selectively plated with gold and exposed to the environment, the leadframe is capable of performing the intended use.

In claim 3 to 8 and 24 to 26, Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

As to claims 9 to 15, Akino et al. and Huang et al. it would be obvious to one of ordinary skill in the art to use claimed detailed on the structure of the leadframe in the device.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to use Huang et al.'s selective plating to modify Akino et al.'s plating of the entire surface for the purpose of making better solder connections.

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As to the grounds of rejection under section 103, see MPEP § 2113.

Response

Applicant's arguments filed 4/19/04 have been fully considered, but are not found to be persuasive in view of the new and modify grounds of rejections detailed above. In the examination of the claims the Examiner is interested in finding the final structure of the claim language. Applicant's arguments stating "gold selectively plated on segments of said leadframe intended for solder is attachment" is not found to be persuasive and further addressed in detail in the office action above. The Examiner has cited the recitation that shows where Huang et al. cites that the discussion as to selective plating over specific portions of the leadframe IS directed to the plating of the gold layer and states that the gold plating is only over the palladium layer. As to claims 3 to 15 and 24 to 26, the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical.

Field of Search	Date
U.S. Class and subclass: 257/666, 675-678, 690, 692, 693, 696, 698, 712, 713, 762, 741, 766-768, 772, 779, 784, 788	3/23/01 4/14/02 6/25/02 12/15/02 6/13/03 2/23/04 6/24/04
Other Documentation: foreign patents and literature in 257/666, 675-678, 690, 692, 693, 696, 698, 712, 713, 762, 741, 766-768, 772, 779, 784, 788	3/23/01 4/14/02 6/25/02 12/15/02 6/13/03 2/23/04 6/24/04
Electronic data base(s): U.S. Patents EAST	3/23/01 4/14/02 6/25/02 12/15/02 6/13/03

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	2/23/04 6/24/04
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272 1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AOW
2/23/04



Alexander Williams
Primary Examiner